Riflescope Owner's Manual

Complete Installation & Operating Instructions

Soul of the American Hunter ***Since 1909***

The Redfield Story

Born in 1859 on a farm near Glendale, Oregon, John Hill Redfield was one of eight children of John and Adelia Redfield.

As a boy, John loved to hunt and explore the regions around the homestead. Eventually, John's mechanical aptitudes and inventiveness led him into the firearms industry, and in 1909, John started the Redfield Gun Sight Co.

A small building behind his home served as his first factory. From this humble beginning, the company expanded its offerings to include scope mounts and eventually a premier line of riflescopes for which it was widely known.

In 1997, Redfield closed its manufacturing facility in the United States and spent most of the next decade languishing as a name used by various companies.

In 2008, Leupold & Stevens, an Oregon company with a long tradition of manufacturing optical instruments, purchased the Redfield optics brand and committed to bringing American hunters a new generation of Redfield riflescopes. These new products embody the values that Leupold and Redfield shared: ruggedness, performance, durability, and value. We hope your new Redfield riflescope brings you years of success and enjoyment in the field.

Before You Start

PLEASE READ THIS ENTIRE HANDBOOK BEFORE MOUNTING YOUR SCOPE.

CAUTION:
Always check and be certain that the firearm is unloaded before undertaking any work upon it.

Know Your Scope

Riflescopes have become far more sophisticated over the years, but the four most basic parts have remained the same. Working from front to back they are:

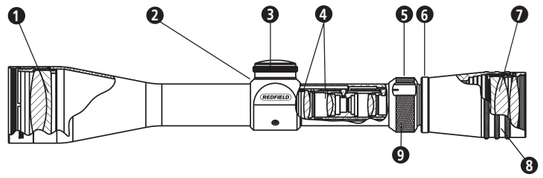
1. The objective lens *(front lens)* is critical to a superior sight picture.
2. The internal erector lenses which right the image.
3. The reticle, often referred to as the crosshair, provides the aiming point.
4. The ocular lens *(or eyepiece lens)* works with the other lenses to magnify the image and make diopter corrections.

HOW SCOPES WORK

As light passes through and beyond the objective lens, the resulting upside down image is sent to the internal lenses. Known as erector lenses, these internal lenses return the image to a right-side-up position. Finally, the ocular lens makes a final enlargement of that image and sends it on to your eye.

Your Redfield scope was designed, manufactured, and tested to ensure that, when properly mounted and sighted-in on your firearm, you will enjoy exceptional performance. A solid mount is critical to satisfactory performance of your scope. If you have questions, please contact Redfield Product Service *(see opposite side).*

PARTS OF THE SCOPE



1. *Objective Lens*
2. *Windage Adjustment (opposite side of scope)*
3. *Elevation Adjustment*
4. *Erector Lenses*
5. *Power Selector Ring*
6. *Eyepiece Lock Ring*
7. *Ocular Lens*
8. *Eyepiece Assembly*
9. *Reticle Housing*

How to Install the Scope

A Riflescope is only as effective as its mounting system. For peak accuracy, dependability and precision, select only Leupold mounting hardware for your Redfield riflescope.

THE LOWER THE SCOPE, THE BETTER

A scope mounted close to the rifle ensures proper cheek weld on the stock for a stable firing position and allows for rapid target acquisition. We recommend using the lowest possible ring height. No specific clearance is required, but the scope must clear the bolt handle, hammer (on lever actions), sights, and barrel.

When installed, be sure that your scope does not interfere with firearm operation and does not contact anything except the mount rings.

INSTALLING THE BASE, RINGS, & SCOPE

Please refer to the instructions included with the base and rings for their proper installation on the firearm.

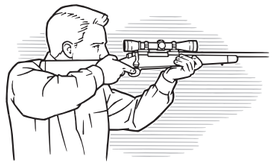
NOTE: The windage and elevation adjustments on new Redfield scopes are centered as part of the assembly process. If you are mounting a scope that was previously mounted on another rifle, you should center the adjustments (please see "Centering Windage and Elevation Adjustments" section for more details).

ESTABLISHING EYE RELIEF ON RIFLES & SHOTGUNS

Because of the safety considerations associated with proper eye relief, Redfield strongly recommends that you mount your scope as far forward as possible. Beyond that, follow these steps:

1. With the scope as far forward in the mounts as possible, hold the rifle in your normal shooting position. Scopes should be set at the highest magnification for this process.
2. Slowly move the scope to the rear just until you can see a full field-of-view.
3. Position your scope here for maximum eye relief.
4. Proceed to COMPLETING THE INSTALLATION.

NOTE: To confirm that your scope is mounted in the best possible position, try assuming various positions: kneeling, seated, prone, and aiming both uphill and downhill. Remember that aiming uphill typically reduces eye relief. Wearing hunting/shooting specific clothing is recommended as this may alter eye relief considerations slightly.



Redfield riflescopes are engineered to provide a generous 3" to 5" eye relief, depending on the model and the magnification level.

WARNING:
If a scope is mounted too far to the rear, the eyepiece can injure the shooter's brow. Shooting at an uphill angle also increases this hazard because it shortens the distance between the brow and the rear of the scope. For this reason, Redfield scopes are engineered to provide generous eye relief. Therefore, when mounting your scope, we recommend positioning it as far forward in the mounts as possible to take full advantage of this generous eye relief.

COMPLETING THE INSTALLATION

Without disturbing the optimal eye relief position, rotate the scope until the elevation adjustment dial is at the top of the scope.

From a firing position, check to be sure that the vertical line of the reticle aligns with the vertical axis of the firearm. Misalignment will not affect accuracy at moderate distances but it can diminish long range accuracy.

When you are satisfied, tighten the ring screws evenly and securely following the instructions included with the rings.

FOCUSING THE RETICLE

Secure the scope and firearm in a firm rest. Safely point the scope at a light colored background object. With the scope approximately four inches from your eye the reticle should appear sharp and crisp; if it does not, it is necessary to adjust the focus by means of the eyepiece following these steps:

1. Grasp the eyepiece with your hand and back it away from the lock ring. Once the lock ring is free from the eyepiece, turn it clockwise away from the eyepiece to keep it out of the way during the adjustment.
2. If you tend to hold things away from yourself to see them clearly (you are farsighted) turn the eyepiece counterclockwise a couple of turns. If you hold things close to yourself to see them clearly (you are nearsighted) turn the eyepiece clockwise a couple of turns.
3. Looking through the scope when pointed at a light colored background object, take a few quick glances at the reticle. The focus of the reticle should be noticeably different from when you started. Continue this process until the reticle appears clear and sharp.
4. When you are satisfied with the image of the reticle, turn the lock ring so that it rests firmly against the eyepiece.

If your eyesight changes, readjust the eyepiece. As we age, eyesight normally changes. You may want to check the sharpness of the reticle on your scope every few years to ensure it is still adjusted correctly for your eye.

NOTE: To protect the integrity of the waterproof seal of every Redfield scope, an internal mechanism prevents the eyepiece from being removed.

The primary function of a scope is to aim the firearm. Never use the scope as a substitute for binoculars. Never watch another person through the scope. As always, safety first.

How to Sight-In

USING A BORE-SIGHTING COLLIMATOR

To save time and ammunition, start out in your shop or gun room with a bore-sighting collimator. Follow the directions included with the collimator for specific instructions on its proper use. Remember, when possible, it is better to make the initial windage adjustments to the mount base before using the scope's windage adjustment. Leupold STD mounts provide the maximum adjustment travel by providing windage adjustment in the mount system. When using STD mounts, always make the windage adjustment in the mount first, then refine this setting using the riflescope windage adjustment.

NOTE: Bore-sighting alone is not sufficient to sight-in a scope. You must make final adjustments by shooting the firearm using the same ammunition you use in the field.

USING THE LEUPOLD® ZERO POINT® ILLUMINATED MAGNETIC BORESIGHTER

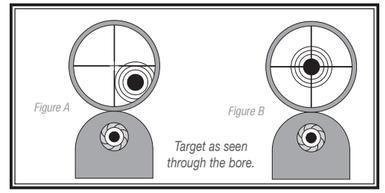
This tool fits any rifle, shotgun, or pistol, and helps you get "on the paper" fast, without barrel spuds. It works with any optical sight, and can even be used to recheck your zero, without firing a shot. See your Redfield Dealer or visit www.redfield.com for more information.

TRADITIONAL BORE-SIGHTING (BOLT ACTIONS)

Preliminary sighting-in can also be accomplished by bore-sighting at the firing range using a target from 20 to 50 yards away.

1. Position the firearm on the bench, using sandbags to steady the firearm.
2. Remove the bolt from the firearm.
3. Looking through the bore itself, move the firearm to center the bull's-eye of the target inside the barrel, as shown in Figure A.
4. Hold the rifle steady. With the bull's-eye centered when viewed through the bore, make windage and elevation adjustments to the scope until the very center of the reticle is aligned with the bull's-eye of the target, as shown in Figure B.

(CONTINUED ON REVERSE)



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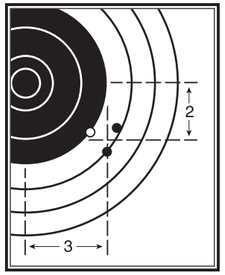
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THE FINAL STEP: THREE-SHOT GROUPS

Whichever bore-sighting method you've used, the next steps are the same on the firing range. To ensure reliable results, always fire from a rested position when performing these steps and be sure to have removed the boresighter prior to loading the firearm.

1. Fire a shot or two.
2. If you are several inches off center, make an appropriate amount of adjustment to move the reticle to the center of the target.
3. Carefully fire a three-shot group.
4. Use the center of that group as a reference point for the final adjustments to windage and elevation.
5. Holding the rifle steady, center it on the bullseye and carefully turn the adjustments without moving the rifle until the crosshair is on the center of the group

On the sample target, the center of the group is two inches low and three inches right. Assuming you're sighting-in at 100 yards, you should make a 2-MOA adjustment up, and a 3-MOA adjustment left. Your next three-shot group should be very close to the center of the target. To learn about making final adjustments, proceed to the upcoming section on windage and elevation adjustments.



Making Precise Windage & Elevation Adjustments

CENTERING WINDAGE & ELEVATION ADJUSTMENTS TO ACHIEVE OPTIMUM ADJUSTMENT TRAVEL

Making windage and elevation adjustments moves the entire erector system horizontally and vertically inside the scope. If the erector system is off to one side – as a result of having been mounted on a non-adjustable mount – the adjustments won't provide equal travel in all directions. All new Redfield scopes will be centered from the factory. To regain full balanced travel, you must recenter the adjustment as follows:

1. Turn the windage adjustment to the point that it stops moving.
2. Counting the clicks or hash marks, turn it all the way in the other direction.
3. Turn the dial back half the amount of clicks or marks counted.
4. Repeat this process for the elevation adjustment.

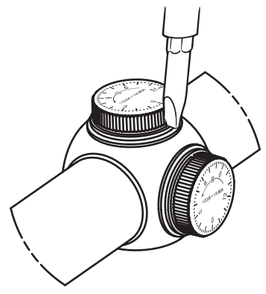
All Redfield scopes feature 1/4 MOA precision finger-click adjustments, and the letters found on the elevation and windage dials refer to the direction that the point-of-impact of the bullet is moved when an adjustment is made.

To make an elevation correction, simply remove the elevation adjustment cover located on the top of the scope, and rotate the dial the necessary amount. The adjustment will move the bullet impact in the direction indicated on the dial. For example, if you would like the bullet to impact 2 inches higher at 100 yards, you would rotate the elevation dial 8 clicks (2 MOA) in the "up" (counterclockwise) direction. The same is true for windage adjustments. To make a windage correction simply remove the adjustment cover on the side of the scope and rotate the dial in the left or right direction the appropriate number of clicks.

ZEROING THE WINDAGE & ELEVATION DIALS AFTER SIGHTING IN

Redfield scopes feature adjustment indicators that can be repositioned to align with the marked zero of the dial without changing the adjustment setting of the scope. This allows the shooter to know the original zero of the rifle in the event that further adjustments are made in the field.

To reposition this indicator simply rotate it until the notch is aligned with the zero of the adjustment dial.



Dials have a separate indicator ring that can be adjusted to indicate the new zero position.

What You Should Know About Variable Power Scopes

Redfield variable power scopes allow you to select from a range of magnifications to suit your particular rifle, cartridge, and shooting needs.

WARNING: *Do not loosen the screw in the power selector ring. Doing so will release the internal gas that keeps the scope fog free. Loosening the screw will also disconnect a pin that controls the internal operations, causing other problems that will require factory repairs. Do not lubricate the power selector ring; doing so is unnecessary.*

All variable power scopes have a power selector ring in front of the eyepiece assembly. Turn the ring to align the indicator marked on the ring with the desired magnification marked on the body of the scope.

INSTALLING A LENS ATTACHMENT

Redfield scopes offer threaded objective and eyepiece rings to allow for the attachment of lens covers and a variety of Leupold® Alumina® accessories. These attachments thread directly into the objective or eyepiece rings. Turn until finger tight – do not over tighten.

Redfield Means Minimal Maintenance

LENSES

Redfield scope lenses are coated to reduce light reflections and light scattering, thus increasing light transmission through the scope. They should be cleaned as carefully as you would a camera lens. Begin by using a lens brush to remove dust and then pure alcohol, high-grade glass cleaner, or pure water on a cotton swab.

WINDAGE / ELEVATION ADJUSTMENTS

These adjustments are permanently lubricated. There is no need to lubricate them.

Keep the adjustment covers on, except when adjusting, to keep out dust and dirt. *(It's worth noting that, unlike competitive brands, Redfield scopes are waterproof even without the covers in place.)*

EYEPIECE ADJUSTMENT

This adjustment is permanently lubricated. There is no need to lubricate it. The eyepiece can be rotated as far as it will go in either direction. An internal lock ring prevents inadvertent removal of the eyepiece.

SEALS

Redfield scopes are sealed from within by several methods, including O-rings. All seals are permanent and require no maintenance.

SCOPE EXTERIOR

Redfield scopes are made of rugged 6061-T6 aircraft aluminum alloy. No maintenance of any kind is required; simply wipe off any dirt or fingerprints that accumulate with a clean, dry cloth.

POWER SELECTOR RING

No lubrication is ever required on the power selector ring. DO NOT LOOSEN OR REMOVE THE HEX SOCKET HEAD SCREW IN THE POWER SELECTOR RING.

TROUBLE SHOOTING TIPS

Before you ship a scope back to the factory for service or repair, please check the following items.

1. Check the mount. Make sure the scope is mounted securely to the rifle. Try, with bare hands only, to gently twist the scope in the rings or see if anything moves when you jiggle it. If there is any movement, retighten the mounting system according to mounting instructions.
2. Make sure the action of your rifle is properly bedded in the stock, and that all receiver screws are tight and have been tightened in the sequence recommended by the manufacturer. A loosely fitted stock can cause changes to the point-of-impact.
3. When test firing a rifle to check the point-of-impact relative to windage and elevation adjustments, be sure to fire from a solid bench with sandbags supporting the forearm and buttstock.
4. Be sure to use factory-loaded ammunition of the same bullet type, weight, and preferably, lot number. If one type of ammunition does not shoot well, try another brand or bullet weight.
5. Be certain that both the barrel and chamber are clean. Heavy factory grease or copper fouling can diminish the accuracy of the firearm.

Redfield Product Service

If your Redfield scope fails to perform in any way, you may return it directly to the factory (or one of our international service centers) for service. We recommend contacting Redfield Technical Service at 1-877-798-9686. It is not necessary for your dealer to ship the scope to Redfield; however, they can be very helpful in determining if factory service is necessary. Please follow these shipping instructions:

1. Remove the rings and any other accessories from the scope.
2. Record the serial number of the scope and keep it for your records.
3. Include a note with your name, address, telephone number, E-mail, and a description of the problem.
4. Pack the scope in its original box if possible, as this is the safest shipping container. Wrap the package securely using filament strapping tape on the outside.
5. Ship the scope by parcel or mail service (insured, if possible) to one of the following addresses:

In the United States:

Parcel Service:
Redfield Product Service
14400 NW Greenbrier Parkway
Beaverton, OR 97006-5790 USA

By Mail:
Redfield Product Service
P.O. Box 688
Beaverton, OR 97075-0688 USA

Outside the United States:

Canada: Korth Group Ltd., 103 Stockton Point, Box 490
Okotoks, AB T1S 1A7, Canada

Germany: Harold Ros, Coburger Strasse 71,
98673 Eisfeld, Germany

Sweden: HDF Gyttorp Jakt AB, Svarvaregatan 5,
S-302 50 Halmstad, Sweden

Our Product Service telephone numbers are (503) 526-1400 or 1-877-798-9686, fax is (503) 352-7621.

They can also be contacted through our Web site at www.redfield.com.

Consumer Protection You Can Trust

All Redfield products are made with the customer's absolute satisfaction in mind. That's why we offer the Redfield Lifetime Warranty:

If any Redfield riflescope is found to have defects in materials or workmanship, we will, at our option, repair or replace it. Free. Even if you are not the original owner. No warranty card required. No time limit applies.

The Redfield Lifetime Warranty in Germany and other countries where legally prohibited: Redfield is convinced of the high-quality and reliability of its riflescopes. This is why each U.S. customer is afforded a lifetime warranty. For legal reasons, this warranty must be restricted to 30 years in Germany and other countries where a lifetime warranty is prohibited. Each owner, even those that acquired a Redfield product that was previously owned and used, can make use of this 30 year guarantee.

REDFIELD MAKES MORE THAN SCOPES

See our complete line of rangefinders, binoculars, spotting scopes, and accessories at your nearest Leupold dealer.

For a free Redfield catalog, write to: Redfield, Inc., P.O. Box 688, Beaverton, OR 97075, call (503) 526-1400 or 1-877-798-9686 or send us an E-mail through our Web site at www.redfield.com.

The Redfield package is made in part from recycled materials and is 100% recyclable. This includes the white polypropylene supports, which are made of an accepted recyclable material. Many Redfield owners keep their scope boxes. If you have no use for yours, we encourage you to dispose of it responsibly.

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